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ABSTRACT

This paper recommends an evaluation procedure for gifted children which uses test results only to confirm the conclusions resulting from clinical evaluation that involves observation, discussion with the child, an interview with the parents, developmental milestones, and family history. It suggests that traditional test interpretation may lead to serious underestimates of the abilities of gifted children for the following reasons: (1) variations in scores from one instrument to another are much greater among the gifted; (2) discrepancies among subtest scores are much greater among gifted students; (3) discrepancies which are typical in the gifted population may be interpreted as signs of abnormal brain functioning; (4) compensation skills may mask the presence of hidden learning disabilities; (5) certain subtests and combinations of subtests should be given more weight than composite scores in the determination of giftedness; (6) environmental factors during assessment can have a stronger effect on the scores of gifted children; (7) some highly gifted children refuse to respond if a test question is too easy; and (8) how the examiner feels about the child can have a dramatic effect on test scores. The paper concludes that the highest indicator of a child's abilities should be seen as the best estimate of a child's giftedness. (Contains 16 references.) (DB)

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Using Test Results to Support Clinical Judgment

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Clinical judgment is the basis for diagnosis in medicine. Test results are useful within the context of other information obtained, such as presenting symptoms, medical history, family history, and patient interview. The test results themselves are of limited value unless they are interpreted by a skilled clinician who has had experience with the presenting problem. Yet, in diagnosing giftedness, too often the test results are expected to be able to do the job alone. Clinical judgment, if used at all, is subservient to the numbers. As in medicine, accurate assessment of giftedness is dependent upon the skill and experience of the examiner in interpreting protocols of gifted children within the context of all the other information obtained.

The Gifted Development Center in Denver, Colorado originated on the campus of the University of Denver in June of 1979 and serves as a field placement training facility for students in the Professional Psychology program at the University of Denver and the Counseling Psychology program at the University of Colorado. In addition, we have provided postdoctoral training in assessment to leaders in the field of gifted education from the US, Australia and the Philippines. We have assessed nearly 2,500 children. Throughout the last 18 years of training and supervising, it has become increasingly clear to me that a thorough understanding of gifted development must be a prerequisite to training in assessment; otherwise, boilerplate interpretations are likely to ensue in which numbers take precedence over clinical judgment. Such interpretations are often inaccurate.

The best evaluators of gifted children that I have ever encountered can estimate a child's level of intelligence through clinical observation, a brief discussion with the child, an interview with the parents, developmental milestones, family history, or some combination of these sources of information. Test results are interpreted within this broader framework and judged to be valid only if they conform to the clinical picture that has emerged from a more comprehensive appraisal of the child. If the test results fail to support the examiner's clinical judgment, then further evaluation is sought to determine the cause of the discrepancy. The more experience an examiner has with gifted children, the more effective his or her clinical judgment will be. Obviously, this type of assessment is more time consuming, and, therefore, more costly than typical school evaluations.

Traditional test interpretation involves averaging of verbal subtest scores and nonverbal (performance) subtest scores and then combining the averages in order to obtain

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composite Full Scale IQ scores. Relative strengths and relative weaknesses are determined by the degree of discrepancy between specific subtest scores and the subject's verbal mean and performance mean. The child's scores are compared to the norm to determine if they are above or below the average for their age group (Kaufman, 1994).

While traditional interpretation may be suitable for school-based assessments with 95% of the population, it often leads to severe underestimates of the abilities of gifted children because there are unique issues in assessing the gifted that are not common knowledge in the profession.

First and foremost, variations in scores from one instrument to another are much greater among the gifted than among any other group (Silverman, 1995a). Some of the most popular tests suffer from ceiling effects that only diminish the scores in the gifted range. What may appear as a "relative strength" on one test may turn out to be an astronomical strength on a test with a higher ceiling. The talent search model serves as a clear example of this principle. Two 7th graders who score at the 97th percentile in mathematics on a 7th grade achievement test may attain radically different scores when they take the Mathematics section of the SAT as an above-level test in one of the talent searches: one may score 300 and the other 700 (VanTassel-Baska, 1984). The grade-based assessment indicates that the two students are in the top 3 percent of students their age and probably qualifies them for a gifted mathematics program. But the SAT results reveal that one of the two students needs considerably more advanced work than the other. The same situation often occurs with intelligence testing with gifted students. Highly gifted students' scores frequently vary more than 2 standard deviations on various instruments (Silverman, 1995a). For example, a Canadian child achieved a Verbal IQ of 153, a Performance IQ of 116, and a Full Scale IQ of 138 on the WISC-III. I retested him on the Stanford-Binet (Form L-M) and discovered that he had a formula IQ score of 225+. We recommend that when children obtain two or more subtest scores at or above the 99th percentile on any test that they be retested on an instrument with a higher ceiling, such as the Stanford-Binet (Form L-M) (Rimm & Lovance, 1992; Silverman, 1995a; Silverman & Kearney, 1989, 1992a, 1992b).

Second, discrepancies among subtest scores are much greater among the gifted than among any other group. The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) (American Psychiatric Association, 1994), which establishes the criteria used by mental health professionals for various diagnoses, provides clear admonition against averaging subtest scores when they are highly discrepant.

> When there is significant scatter in the subtest scores, the profile of strengths and weaknesses, rather than the mathematically derived full-scale IQ, will more accurately reflect the person's learning abilities. When there is a marked discrepancy across verbal and performance scores, averaging to obtain a full-scale IQ score can be misleading. (p. 40)

This advice appears in the DSM-IV under the section on mental retardation. We recommend that the same caveat be used with the gifted. When discrepancies among subtest scores exceed 9 points, or when Verbal IQ and Performance IQ scores vary 15 or more points, the child's strengths and weaknesses should be discussed separately rather than averaged. The strengths should be used as the best indication of the child's giftedness.

A different problem occurs when discrepancies which are typical in the gifted population are interpreted as signs of abnormal brain functioning. Gifted children typically have higher Verbal (V) scores than Performance (P) scores because the verbal tests are better measures of mental age (cognitive ability) and performance tests are more dependent on the child's physical coordination and speed. The increased emphasis on bonus points for speed in modern tests depresses IQ scores for reflective children or children with slow processing speed or poor motor coordination (Kaufman, 1992). It is the gifted whose scores suffer the most because they have more competence while they may not have more speed (Reams, Chamrad & Robinson, 1990). On the WISC-III and the WPPSI-R, the bonus points for speed have increased sufficiently that large discrepancies between Verbal and Performance IQ are quite common in the gifted. However, numerous gifted children are currently being misdiagnosed as having a "right hemispheric disorder" (a very serious malady) based on these discrepancies. We recommend that children be allowed to continue after the time limits, and that both timed and untimed performance be reported. If the child is able to complete the items correctly if given sufficient time, then the possibility of right hemispheric disorders is eliminated. We also routinely send children with large V-P discrepancies to a behavioral optometrist to see if slight visual perceptual weaknesses may be responsible for the disparity in scores. We have found that 6 months of vision training, faithfully practiced every day, has increased Performance scores one or two standard deviations in a number of gifted children.

Many gifted children have dual exceptionalities. They are both gifted and learning disabled. Hidden learning disabilities can be covered up by children whose extraordinary abstract reasoning enables them to find other ways to solve problems. This ability to compensate may prevent true disabilities from being diagnosed. In addition, disabilities can depress IQ scores so that a truly gifted child does not score in the gifted range. A history of chronic ear infections, for example, has a much greater impact on IQ scores in the gifted range than in the average range (Silverman, 1995b). It takes a good detective to be able to ferret out disabilities in gifted children and recognize giftedness in disabled children. We recommend that family histories be taken routinely to determine the degree of giftedness in the family and the presence of disabilities in the family, since both have a strong hereditary component. In addition, we collect very detailed information on otitis media (ear infections) in all children assessed. All of this information is vital in interpreting test results of twice exceptional children—the group most likely to be misdiagnosed (Silverman, 1989).

Certain subtests are more relevant for the assessment of giftedness than others, and certain combinations of subtests indicate mathematical or visual-spatial talent. These

strengths need to be given more weight in the determination of giftedness than composite scores. We recommend that when time and money are limited (or when assessing children from different ethnic backgrounds), Vocabulary, Similarities, Comprehension, Information and Block Design—the five subtests in which more than 50% of the variance is linked to general intelligence (Kaufman, 1975)—should be administered and used to select gifted students rather than the entire WISC-III, since most of the other subtests are only weakly correlated with general intelligence and tend to diminish IQ scores in the gifted range.

Environmental factors during assessment can have a stronger impact on the scores of gifted children than of other groups, because the actual knowledge a child has may be considerably more than the amount revealed during the testing. Among the factors that can prevent gifted children from demonstrating all that they know are (1) choosing to hide
their abilities out of fear of the consequences of being labeled gifted (e.g., being removed from a current placement and being placed in a new environment; greater expectations of parents; losing friends; etc.); (2) unwillingness to guess for fear of making a mistake and appearing foolish; (3) anxiety at being evaluated; (4) feeling uncomfortable with the examiner; (5) feeling uncomfortable with aspects of the physical surroundings. While these variables can affect all children, where the actual ability is very high, the discrepancy between ability and performance can be enormous. For example, one child refused to answer most of the questions on the IQ test with one examiner, obtaining scores of 0-3 on most subtests, while he obtained a score of 151, in the highly gifted range, with another examiner at another agency. His mother reported that he was uncomfortable in the first setting. We recommend that enough time be spent developing rapport with the child before assessment to assure cooperation. Children can be asked to bring a favorite toy or a photograph album to share with the examiner (Meckstroth, 1989). Some of our examiners have resorted to having the child's toy answer the questions or a hand puppet if the child becomes afraid of making mistakes. The room should be carefully checked for comfort level, lighting (no flickering bulbs), noise, etc. The child should be allowed frequent breaks as needed and know how to find the bathroom and his or her parent. If anxiety causes a child to freeze up, the examiner should move to a different section of the test and return to the anxiety-producing items when the child is more at ease or postpone the rest of the exam for another day.

Some highly gifted children refuse to respond if a test question is too easy. They think it is a "trick question" and read many deeper meanings into the question than are helpful (Lovecky, 1994). They may get depressed IQ scores because of knowing too much about a subject rather than too little. For example, Melody Wood, who assesses highly gifted children in Maine, asked a girl who discovered America. The girl thought a long time and then said she didn't know. When the test was over, Melody asked her the question again and she replied, "I know it wasn't Christopher Columbus. That theory was disproven, but I just can't remember who it was." We recommend that examiners explain to children that some of the questions were designed for much younger children and will be very, very easy, while others were designed for much older children and may be too hard, but

that it is good to guess. Some- times practicing simple guessing games like "Guess what I ate for breakfast?" helps a child relax enough to guess at more difficult questions, and these "guesses" can often be right.

How the examiner feels about the child can have a dramatic effect on test scores. Some gifted children are extremely intuitive and pick up on facial expressions, body language, and other signals that the examiner is unaware that he or she is emitting. If the examiner is hungry and is annoyed that the child is answering so many items correctly that the test is taking longer than expected, the child is likely to oblige by missing sufficient items so that the examiner can go to lunch. On the other hand, if the examiner thoroughly enjoys the workings of a gifted child's mind and delights in every correct answer, the child responds to the twinkle in the examiner's eye and tries his or her best.

There are many nuances in both testing and test interpretation with the gifted that are not common knowledge. False positives are very unlikely: scores in the gifted range do not occur "accidentally" because one can't fake abstract reasoning (Silverman, 1986). However, false negatives are abundant. Many more children are gifted than test in the gifted range. Underestimation of gifted children's abilities, unfortunately, is much more common than accurate appraisal. When the examiner knows enough about giftedness to recognize this inherent danger in testing, all test results are subjected to confirmation with other data. If, for example, a child's reading achievement score is 160, but the IQ score is 125, the IQ score must be an underestimate. It is impossible for a child to achieve beyond his or her capabilities. (This is why "overachiever" is an oxymoron.) Therefore, we recommend that the highest indicator of a child's abilities at any age should be seen as the best estimate of the child's giftedness. When other measures fall short of this indicator, the examiner needs to search carefully to determine possible causes of the underestimate.

The measured IQ of parents or siblings, early achievement of developmental milestones, profound curiosity, deep moral concern, remarkable associations or generalizations, perfectionism, keen attention to detail, unusual empathy, vivid imagination, superb memory, early reading or fascination with Legos, school achievement, reading interests, and parental anecdotes of unusually advanced reasoning should all be taken very seriously in determining the abilities of a child. With sufficient experience with gifted children, an examiner can create a composite picture of the level of the child's abilities, and IQ test results are nested into this schema to add further information. In the end, diagnosis of the degree of a child's advancement must be based upon clinical judgment, not just on psychometric data.

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